

**REMARKS**

Amended claims 1-2, 6, 10, 11, and new claims 21-22 are pending in the application with the present amendments. Errors in the specification of a typographical nature are correction herein in response to the objections in paragraph 2 the Office Action. Applicants respectfully submit that the corrections fully address the objections. No new matter is introduced herein by way of the amendments to the specification herein.

The claims are amended herein to address the objections and rejections thereto under 35 U.S.C. §112, as well as the 35 U.S.C. §§102-103 rejections over the references cited in the Office Action. Claim 1 is amended herein to include recitations of claims 3 and 4 and to further specify that the fuse, when in the electrically conductive state, conductively connects the first default data transmitter to the first output signal line, and the antifuse conductively connects a redundancy data transmitter to the first output signal line when the antifuse in the electrically conductive state.

The combination of references cited by the examiner, taken as a whole, does not teach the invention now recited in claim 1. U.S. Patent No. 7,212,738 to Wang ("Wang") merely teaches an optical communications system in which *optical* switches having transmissive and reflective states can bypass a defective optical transmitter with a different transmitter. Wang does not teach conductively connecting a first default data transmitter to a first output signal line as recited in amended claim 1.

Moreover, the secondary reference, U.S. Patent No. 5,552,743 to Manning ("Manning") cited in combination with Wang to reject claims 3 and 4 does not teach an

arrangement as recited in claim 1 in which a fuse conductively connects a data transmitter to an output signal line of the chip when the fuse is in the electrically conductive state. Nor does such combination teach that a fuse electrically disconnects such data transmitter from the output signal line when the fuse is in an electrically high resistive state. On its face, Manning does not relate to redundancy replacement of data transmitters. Manning merely describes an arrangement by which a bank 1 of state device modules, e.g., fuses and antifuses (col. 1, Ins. 50-58) can be used to control operation of programming logic 2 for a memory. In turn, the programming logic 2 operates a random access memory ("RAM") 3 (FIG. 1). No fuse conductively connects a device, bank or section of the RAM 3 to another such bank or section. Rather, the fuse controls the operation of programming logic 2, and such programming logic 2 makes the connections which determine how RAM 3 operates.

Moreover, Manning's teachings are no more pertinent with regard to the antifuses recited in amended claim 1. The combination of Wang and Manning fails to teach a fuse that conductively connects a first data transmitter to a first output signal line when in the conductive state, and fails to teach an antifuse that conductively connects a redundancy data transmitter to the first output signal when the antifuse is in the electrically conductive state.

Claim 21 has similar recitations to claim 1, except that in place of antifuses, second connection elements each having a second fuse are recited, wherein the fuse conductively connects the first data transmitter to a first input signal line when the fuse is in the electrically conductive state. Accordingly, claim 21 is believed to be patentable over

the cited references for reasons similar to those provided above.

Claim 22 has similar recitations to those of claim 21 except that in place of fuses, first and second connection elements have first and second MEM switches, respectively, wherein the first MEM switch conductively connects the first data transmitter to a first output signal line when the first MEM switch is in the electrically conductive state and a second MEM switch conductively connects the first data transmitter to a first input signal line when the second MEM switch is in the electrically conductive state. Accordingly, claim 22 is believed to be patentable over the cited references for reasons similar to those provided above.

Claims 2, 6, 10 and 11 recite additional features of the invention which are believed to be separately distinguished from the combination of references cited in the Office Action.

Support for the present amendments is provided, *inter alia*, at paragraphs [0019]-[0024] of the Specification, FIG. 3 and the originally pending claims.


In view of the present amendments and remarks, it is believed that the application is now in condition for allowance. If, for any reason, the examiner does not believe that such action can be taken at this time, it is requested that he telephone the undersigned at the number indicated below to discuss any issues that remain.

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It is believed that no fees are required upon filing this Amendment. However, if any fees are required, authorization is given to debit the Deposit Account No. 09-0458 of the Assignee International Business Machines Corporation. If there is an overpayment, please credit the same account.

Respectfully submitted,  
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By:

  
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